# PCBs in NYC Schools

*U.S. Environmental Protection Agency, Region 2*

# Speakers for Tonight:

- Wanda Ayala, Community Involvement Coordinator, EPA Region 2
- Jim Haklar, Regional PCB Coordinator, EPA Region 2
- Representatives for NYC

# Why are we having a public meeting?

- To receive your comments on NYC's report to address PCBs in its schools.

- If you have comments that are not raised at tonight's meeting, they can be sent to:

  James S. Haklar
  U.S. Environmental Protection Agency
  2890 Woodbridge Avenue, Building 10
  Edison, New Jersey 08837

  or email your comments to:

  PCBsPreferredRemedy.Region2@epa.gov

# Some Background on the Issue

***PCBs:***

- Are man-made chemicals that are no longer manufactured.
- Were widely used in industry, especially in building materials and electrical applications such as lighting.
- Are hazardous and potentially cancer-causing.

# Some Background on the Issue

***PCBs in NYC Schools:***

- Initially found in the building caulk at several schools by private individuals.
- The results were provided to EPA and to the New York Daily News.
- EPA entered into an agreement with NYC to address the PCBs.

# Some Background on the Issue

***EPA's Agreement with NYC:***

- Signed by EPA and NYC in 2010.
- Required the city to perform a study of PCBs in 5 older schools (called a "Pilot Study").
- Based on the results of the Pilot Study, NYC prepared a report that recommends a city-wide approach to deal with the PCBs (called a "Preferred Citywide Remedy").

# PILOT STUDY TO ADDRESS PCB CAULK IN NEW YORK CITY SCHOOL BUILDINGS

## USEPA Public Meetings – Preferred Citywide Remedy (May/June 2014)

NYC Department of Education
Carmen Fariña, Chancellor

# Presentation Overview

- Introduction
- Background- Pilot Study to Address PCB Caulk
- Sampling Results Summary
- Preferred Citywide Remedy
- Long Term Monitoring

# PCBs in General

- 1.4 billion pounds of PCBs produced in U.S. between 1925 and 1978.
- Used in consumer products, electrical equipment, and building materials throughout the entire country.
- Beginning in 1950, caulk containing PCBs was used in constructing and renovating buildings throughout the entire country.
- Congress banned the manufacture of PCBs in 1978.
- EPA issued its first national guidance on PCBs in caulk in September 2009.

# Pilot Study Background

- The City reached an agreement with the EPA to conduct a pilot study of five New York City school buildings to further evaluate the risk and management of PCB Caulk.
  - The ultimate goal of the Pilot Study is to develop a citywide approach for assessing and managing PCB Caulk in schools built between 1950 and 1978
- First and only study in the U.S. of this scope and magnitude.

# Pilot Study Background

- **Remedial Alternatives Evaluated**
  - Encapsulation of PCB Caulk
  - Removal and Replacement of PCB Caulk
  - Patch and Repair of PCB Caulk
  - Removal of Windows with PCB Caulk
  - Removal of Light Fixtures with PCB Ballasts – Added in 2011

# Pilot Study Background

- **2010 - 2011 Pilot Study Remedial Work:**
  - PS 178X/176X – Patch and Repair of PCB Caulk
  - PS 199M – Remove and Replace PCB Caulk
  - PS 309K – Encapsulate PCB Caulk
  - PS 3R – Light Fixture PCB Ballast Removal
  - PS183Q – Window Replacement
- PCB light fixtures were ultimately removed from all 5 Pilot Schools, due to magnitude of impact of this remedy.

# Pilot Study Background

## Pre- and Post-Remedial PCB Testing

- Pre-remedial inspections and baseline sampling of PCBs in air, dust and soil.
- Post-remedial PCB air and dust wipe sampling from same locations to evaluate remedial alternatives.

# Pilot Study PCB Wipe Samples

- Pre and post-remediation surface dust wipe samples were collected in all five Pilot Schools. Over 430 dust wipe samples were collected and analyzed.
- All locations sampled were below EPA guidance levels.*
- **Routine housekeeping practices are sufficient to keep PCBs in surface dust below EPA guidance levels.**

*There was one initial exception, which was below EPA guidance levels when re-sampled.

# Pilot Study PCB Air Samples

- Pre- and post-remediation air samples were collected in all five Pilot Schools. The most recent samples at the five Pilot Schools were below EPA guidance levels.
- Over 1,100 PCB air samples have been collected as part of the pilot study.
- **The greatest reductions in airborne PCB concentrations were seen following removal of old light fixture ballasts**

# Discussion of Findings

- PCBs in buildings is a complex problem.
- PCB light fixtures should be addressed first.
- PCB caulk needs to be managed and assessed on an ongoing basis.
- PCBs may also be present in other building materials and furnishings – potential secondary sources.
- More research is needed.

# NYC PCB Light Fixture Removal Project

- **Remove and Replace all PCB Lighting ballasts throughout the entire school system**
- T-12 light fixtures replaced in 238 school buildings
- Light replacement projects currently in progress in 173 school buildings.
- Completion Date: December 31, 2016

# Preferred Citywide Remedy

- PCB Light Fixture Removal Program
- Protocol to inspect and respond to ballast issues
- Implement Best Management Practices
  - Inspect and remediate caulk as necessary, e.g. remove and replace, patch and repair, encapsulation
  - Inspect and maintain ventilation systems per design
- Remove caulk during Capital Improvement Program (CIP) Projects under EPA-approved construction protocols.
- Evaluate, excavate & replace soil associated with CIP
- Long-Term Monitoring Program in Pilot Schools.
- Additional Studies to determine next steps.

# Pilot Study Long Term Monitoring Program

**Annual Sampling:**

- Air sampling (heating season & non-heating season)
- Bulk sampling of remediated caulk
- Wipe sampling of encapsulated caulk

# Some Background on the Issue

***EPA's Agreement with NYC:***

- Required EPA to have technical experts review the city's work (the review is called a "Peer Review").

- Also required EPA to hold a public meeting and receive comments on the Preferred Citywide Remedy.

# Some Points About the Peer Review

- The Peer Review was independent.  EPA's consultant selected three reviewers who had no contact with EPA on the peer review.
- Two reviewers were from private industry and one was from academia.
- EPA provided its consultant with a series of questions for the reviewers to answer.

# More Points About the Peer Review

- EPA's consultant assembled reviewers' responses into a single report (called the Peer Review Report).

- After reviewing the Peer Review Report, EPA summarized its perspectives on the findings of the Peer Review.

- Both documents can be found at:

*http://www.epa.gov/Region2/pcbs/index.html*

# Major Findings of the Peer Review

***The City's Report***

- The City's report is comprehensive.

- Appropriate methods were used during the investigation/field work.

# The Major Findings of the Peer Review

***Clearance Testing in the City's Re-occupancy Protocols for Failures of PCB Light Ballasts***

- When PCB ballasts smoke or leak, the City wipes surfaces inside the affected rooms and analyzes these wipes for PCBs. This is called wipe sampling.
- Some of the peer reviewers believe that wipe sampling alone is not adequate.

# The Major Findings of the Peer Review

***Other Approaches for Addressing PCB Caulk***

- The peer reviewers recommend barriers (such as using plastic tape, gypsum board, or aluminum strips) or chemically treating the caulk to reduce the amount of PCBs.

# The Major Findings of the Peer Review

***Prioritizing Schools to Address PCBs***

- Some of the peer reviewers believe proactively addressing PCBs would significantly reduce exposure.

- All three reviewers also believe air sampling would be an effective component of prioritizing schools.

# The Major Findings of the Peer Review

***Assessing and Optimizing Ventilation in the Schools***

- All three peer reviewers recommend that ventilation be optimized to minimize levels of PCBs in the air.

# The Major Findings of the Peer Review

***Housekeeping at the Schools (Best Management Practices)***

- The peer reviewers were not consistent in their recommendations to focus on either intact or deteriorated caulk (or both).

# The Major Findings of the Peer Review

***Evaluating Soil at Schools with PCBs in the Outside Caulk***

- The peer reviewers do not believe that proactively evaluating PCBs in soil will significantly reduce exposure.

# Next Steps:

- EPA will take public comments until June 30, 2014
- Based on the public comments and the peer review responses, EPA may incorporate revisions to the Preferred Citywide Remedy.

# Next Steps:

- The Preferred Citywide Remedy recommends additional research to address knowledge gaps. EPA has suggested to NYC that the research include:
  - Testing of different sampling methods for indoor air and caulk; and
  - Evaluating how much the caulk and other building materials contribute to the PCB concentrations in the indoor air.

# Points to Remember:

- A lot of work was performed under the Pilot Study and valuable scientific information was obtained.
- We have a better understanding of where PCBs can be present in a school and how they can get into the indoor air which is our main concern.
- By removing the PCB-containing light fixtures, NYC is addressing a major source of PCBs in its schools.
- Your comments matter!

# To Recap:

**Preferred Citywide Remedy:**

- PCB Light Fixture Removal Program
- Protocol to inspect and respond to ballast issues
- Implement Best Management Practices
  - Inspect and remediate caulk as necessary, e.g. remove and replace, patch and repair, encapsulation
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# Questions and Comments